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# The Imperative for Digital Public Infrastructure for Authorship

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## ABSTRACT

As the digital age reshapes the creative economy, the need for robust governance of authorship rights becomes urgent. The concept of **Digital Public Infrastructure for Authorship (DPIA)** is crucial for bridging the gap between cultural value creation and intellectual property governance.

The *Howard Law Artificial Intelligence* Initiative is at the forefront of integrating ethical AI solutions with civil rights protections. The Initiative's work emphasizes, among other concerns, ensuring equitable access to IP rights, particularly for historically marginalized communities and institutions that face disproportionate challenges in navigating fragmented legal landscapes.

The absence of interoperable systems in the United States highlights the need for a cohesive infrastructure that empowers diverse creators and institutions. Written in collaboration with **AXM**, *The Imperative for Digital Public Infrastructure for Authorship* advocates for legal reforms that support democratic values and institutional stewardship.

## INTRODUCTION

With the growth of social media and especially the explosion of generative AI, the creative economy has undergone a seismic shift. The cultural and creative labor of individuals from marginalized communities, and the institutions like **Howard University** that vigorously support them, now circulate primarily through digital systems that ingest, transform, and recombine them at an unprecedented scale. Yet the legal and institutional frameworks governing authorship, attribution, and consent have not evolved in parallel. As a result, value is increasingly generated through culture without corresponding mechanisms to govern how that value is attributed, licensed, or shared. Although cultural works generate substantial economic value, the distribution of that value is often misaligned, with creators and originating institutions receiving only marginal returns relative to the scale of downstream use.

This mismatch must be addressed. As large language models and other generative systems draw from vast cultural archives, the absence of a machine-readable rights infrastructure has become a systemic and systematic inequity. Creative works move frictionlessly across platforms and borders, while authority over those works remains fragmented, slow, and largely invisible to the systems now mediating their use.

Addressing this condition requires more than new regulations or contractual norms. It requires recognizing authorship itself as an infrastructure problem: one that demands a shared, interoperable layer capable of expressing identity, delegated authority, and consent in forms legible to digital systems. Until recently, such a layer did not exist in operational form.

## I. THE INDUSTRIAL CONSTRAINT

A foundational premise of intellectual property law is that creators should be able to realize economic value from their works. In practice, however, empirical evidence suggests a persistent gap between IP commercialization and creator compensation. A 2020 study commissioned by the **United Kingdom Intellectual Property Office** found that 82 percent of professional musicians earned less than £200 annually from music streaming, despite the dominance of streaming platforms in contemporary music distribution.<sup>1</sup> Such outcomes point not to isolated enforcement failures, but to the absence of interoperable infrastructure capable of expressing authorship, authority, and consent within digital systems operating at scale.

Discussions of the creative economy often focus on talent, platforms, or monetization models. Far less attention is paid to the infrastructural layer that determines how creative works are governed once they enter digital circulation. That layer is currently defined by a set of structural constraints that limit meaningful participation in licensing, data, and AI-mediated markets.

**First, authorship information is typically represented as fragile metadata:** static text fields or platform-specific tags that are easily stripped, altered, or ignored as files move between systems. Once detached from provenance, creative works circulate without durable signals of origin or authority.

**Second, delegation of authority remains largely analog.** In the physical world, estates, trusts, universities, and archives visibly signal who may license or steward an asset. In digital environments, that delegation is embedded in contracts, private databases, or institutional knowledge that automated systems cannot interpret or verify.

**Third, institutions lack operational visibility into downstream use.** Without persistent, machine-readable signals of authority and consent, governance becomes reactive rather than preventative. Enforcement often occurs only after value extraction has already taken place, through protracted and costly legal action.

**Together, these constraints produce a systemic imbalance.** Participation in rights-based markets becomes administratively burdensome and uneven, particularly for institutions and creators without significant capital or centralized representation. Value accrues to systems optimized for scale, while authors and stewards remain structurally disadvantaged in asserting control over how their work is used.

## II. THE MISSING LAYER: DIGITAL PUBLIC INFRASTRUCTURE FOR AUTHORSHIP

Copyright law establishes ownership rights, but it does not specify how those rights should be communicated to machines operating at global scale. The missing element is a neutral, interoperable layer that allows legal authority to be expressed operationally.

This is the role of Digital Public Infrastructure for Authorship (DPIA).

DPIA does not replace existing intellectual property (IP) laws. It enhances the IP ecosystem by translating the intangible assets afforded by IP law, such as copyrights, into technical signals that digital systems can recognize. At a minimum, DPIA supports three functions:

- **Persistent identity**, anchoring creative works to durable identifiers that survive platform shifts and file transformations.
- **Delegated governance**, allowing copyright-owning institutions to cryptographically signal their exclusive rights that allow them to control how their works are used, sold, and modified under 17 U.S.C. § 106, 113–15, 120.
- **Programmable consent**, enabling nuanced, machine-readable permissions rather than binary opt-in or opt-out regimes.

Under this model, authorship is no longer treated as ancillary metadata. It becomes a durable layer of digital public infrastructure.

## III. THE U.S. CONTEXT: FRAGMENTATION AND PRIVATE ORDERING

**Under Title 17 of the United States Code**, copyright ownership of a creative work grants remedial protection against infringement and exclusive affirmative rights to the owner. The bundle of rights includes the exclusive ability to reproduce, distribute (sell/license), and create derivative works based upon the copyrighted work. In other words, the copyright owner has the exclusive ability to control the use and distribution of their work. The current legal framework relies heavily on private ordering, where authority is mediated through individual contracts and centralized registries, such as the U.S. Copyright Office.

A formal record of ownership allows for the recovery of damages in the event of infringement, but cannot proactively mitigate the infringement damage from occurring in the first place. This gap that exists in the traditional framework is operationally agnostic toward social justice, causing disproportionate harm to marginalized copyright owners. In the non-digital era, this lack of protection led to a fragmented landscape where creators lacking significant capital often found their work misappropriated, or they were unable to navigate the administrative burdens of rights management.

### **III. THE U.S. CONTEXT: FRAGMENTATION AND PRIVATE ORDERING, CONT.**

While the law theoretically provides equitable access, the practical reality has been one of isolation within private silos, where the high costs of diligent searches and rights clearance preclude meaningful participation in broader markets. Situating authorship as a form of Digital Public Infrastructure represents a move towards fulfilling the IP social justice promise by replacing these fragmented, private barriers with shared rails that promote inclusion and empowerment for all creators. The United States has led the world in platform development, but it has invested comparatively little in shared digital infrastructure for rights governance.<sup>2</sup> Authority over creative works is mediated primarily through private systems that do not interoperate.<sup>3</sup>

This reliance on private ordering has produced a fragmented landscape.<sup>4</sup> Attribution, licensing status, and consent information are siloed within individual platforms. Rights holders must try to manage assets system by system, often without reliable visibility across downstream uses. For independent estates, archives, and academic institutions, the administrative burden alone can preclude meaningful participation in emerging markets.<sup>5</sup> A lack of equitable access to copyright infrastructure prevents marginalized creators from exercising economic agency. When IP rights are managed solely through private market mechanisms, marginalized creators are the first to be excluded.<sup>6</sup>

In contrast, other regions have experimented with public or semi-public digital infrastructure for identity and payments, enabling multiple actors to build services on shared rails.<sup>7</sup> The absence of a comparable layer for authorship in the U.S. has become increasingly consequential as creative works function as inputs to automated systems.

**Howard Law's** scholarship is well-positioned to situate this fragmentation within broader traditions of intellectual property, civil rights, and institutional authority, particularly as authorship intersects with questions of delegation, representation, and legal standing in digital environments.

## IV. DIFFERENTIAL INSTITUTIONAL IMPACT

The consequences of absent authorship infrastructure are not evenly distributed. Institutions that steward decentralized, historical, or community-based collections often operate outside standardized IP registries and commercial licensing pipelines. Their assets circulate widely, but governance over those assets is close to impossible. Social justice in intellectual property has gained special urgency because of technological advancements that enable people to share works cheaply and widely.<sup>8</sup>

Viewing intellectual property through a social justice lens focuses on real-world problems and encourages stakeholders to search for solutions that balance the rights of intellectual property producers/originators and the public across national boundaries.<sup>9</sup> Intellectual Property Social Justice posits that IP legal mechanisms should be applied to effectuate the equitable treatment of all participants in actual practice, and not merely in theory.<sup>10</sup>

To achieve its social utility purpose of human nourishing and flourishing, intellectual property law must adhere to inherent precepts of socially equitable access, inclusion, and empowerment.<sup>11</sup> The absence of authorship infrastructure is not solely a cultural concern. It is an institutional one that disenfranchises an entire group of intellectual property owners who are owed proper protection and control over what they produce. Without infrastructure capable of formally expressing authority and consent, many institutions cannot participate fully in licensing or AI data markets. The platforms treat the authors and institutions as mere sources of content as opposed to governing actors.

A DPIA approach allows authors to define their own terms of participation. By adopting shared protocols, authors, universities, archives, museums, and cultural organizations can make assets legible to external systems while retaining governance over how those assets are used.

## V. FROM CATEGORY FORMATION TO IMPLEMENTATION

Until recently, Digital Public Infrastructure for Authorship had been articulated primarily as a policy and governance gap rather than implemented as a functional system. While scholars and public institutions have long noted the disconnect between cultural value creation and rights governance, authorship itself had not been treated as a distinct, interoperable infrastructure layer.

**AXM** was initiated to address that gap. It was conceived not as a platform or marketplace, but as infrastructure: a neutral layer intended to translate legal authority, institutional stewardship, and consent into machine-readable systems capable of operating across archives, licensing environments, and AI development workflows. Rather than extending existing content or data platforms, the work focuses on authorship as a first-order infrastructure concern.

This approach has received institutional recognition. The work has been acknowledged by the **United Nations Industrial Development Organization (UNIDO)** in the context of the global creative economy and digital public infrastructure and has contributed to a formal roadmap on cultural intellectual property infrastructure developed with the **African Union Development Agency (AUDA-NEPAD)**. That roadmap situates authorship infrastructure within broader strategies for digital sovereignty and economic development.

Early pilots demonstrate feasibility, showing that authorship can be operationalized as shared infrastructure without centralization or forced privatization. Ongoing collaborations, including work with the **Howard Law Artificial Intelligence Initiative**, examine how identity, delegated governance, and programmable consent function in practice across institutional settings.

## CONCLUSION

Creative works are the cornerstones of digital and AI-mediated economies. The absence of authorship infrastructure is a profound injustice. Value continues to scale, but not to the creators.

Digital Public Infrastructure for Authorship offers a path forward. It does not dictate outcomes or speak for communities. Instead, it provides shared rails that allow creators, institutions, and rights holders to define their own terms of participation. The task ahead is not merely technical or legal, but institutional: determining whether authorship will remain an afterthought, or whether it will be treated as infrastructure commensurate with the value it generates.

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